

(No Model.)

O. D. ROGERS.
RAILWAY MAIL CRANE.

No. 545,250.

Patented Aug. 27, 1895.

Fig. 1.

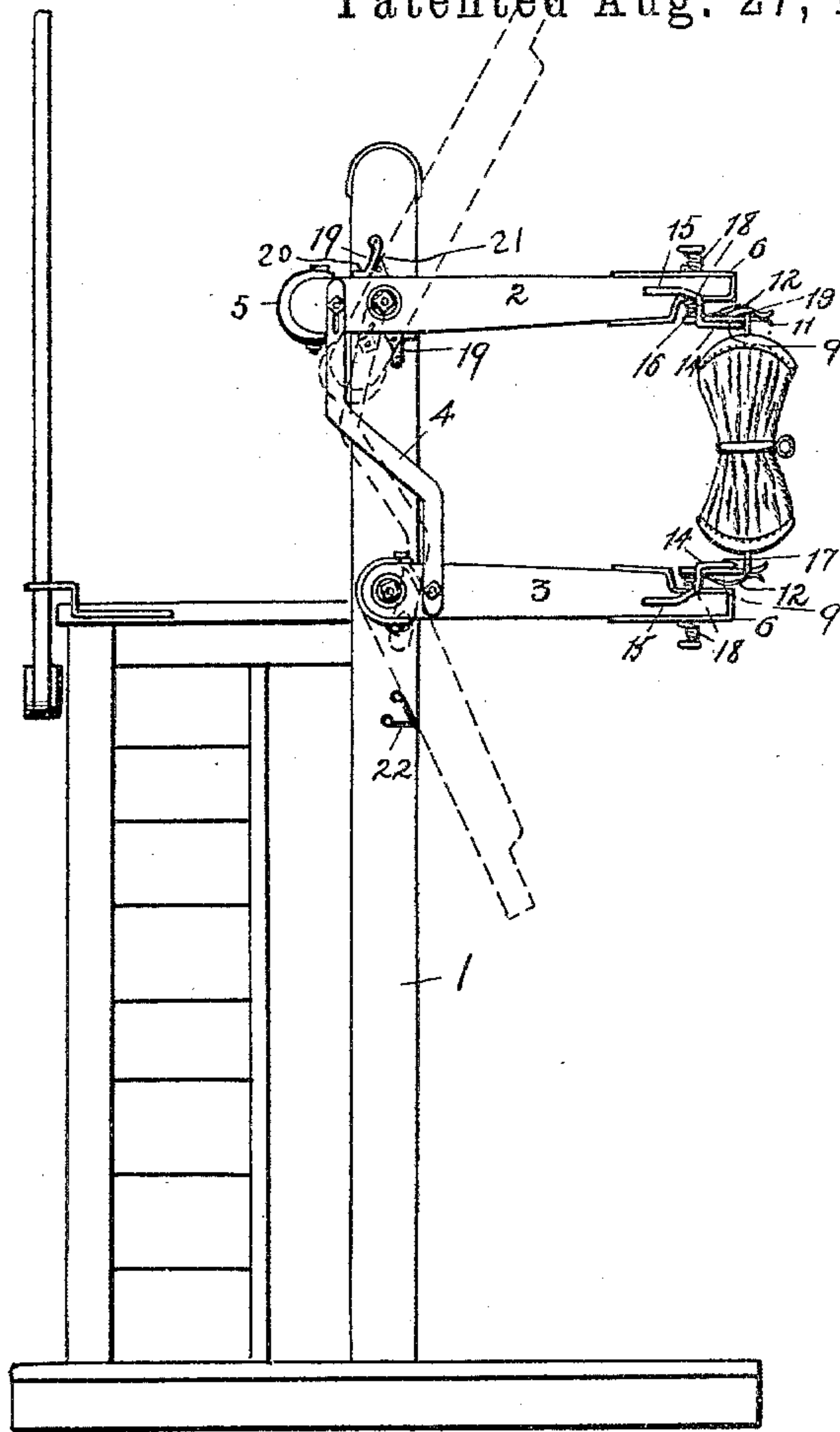


Fig. 2.

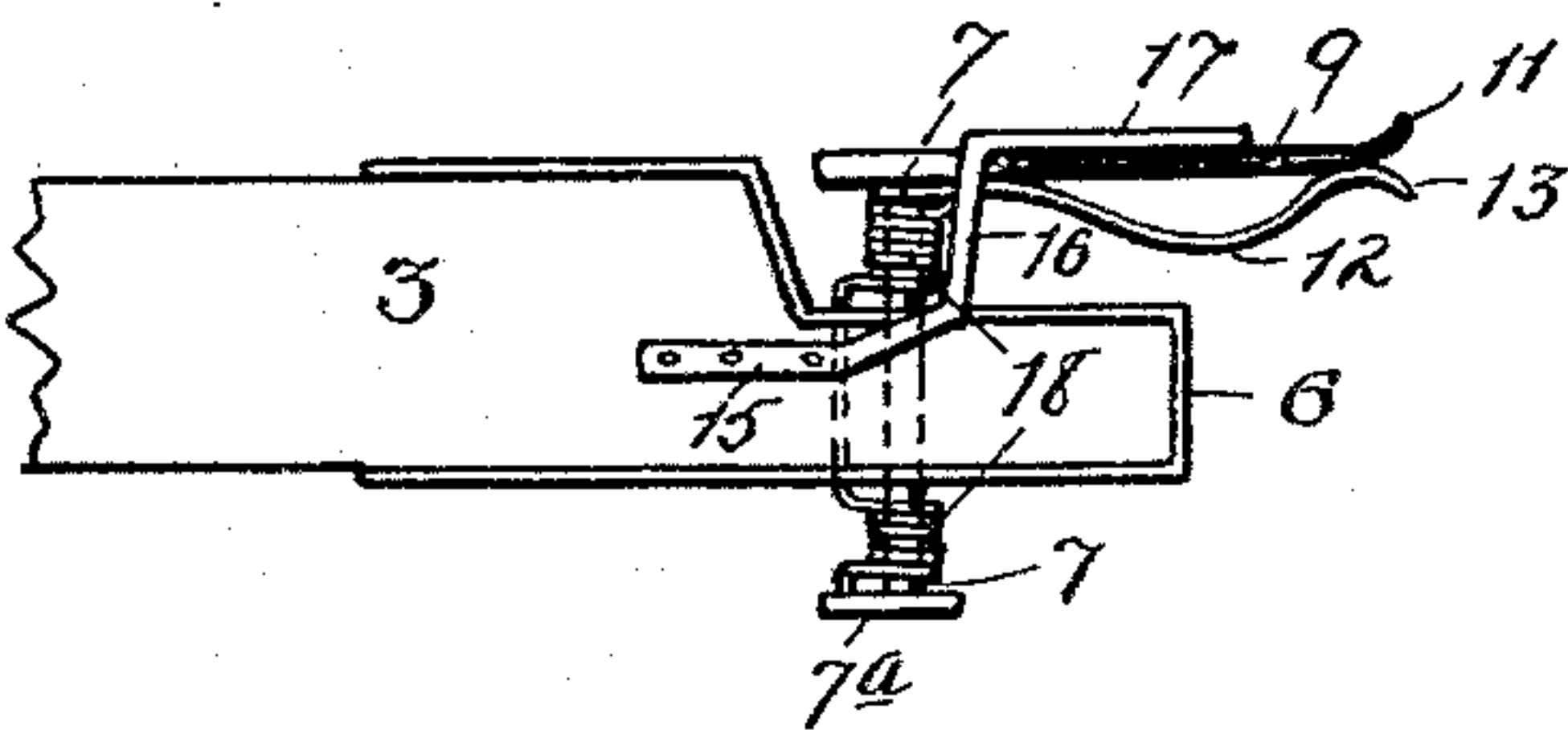
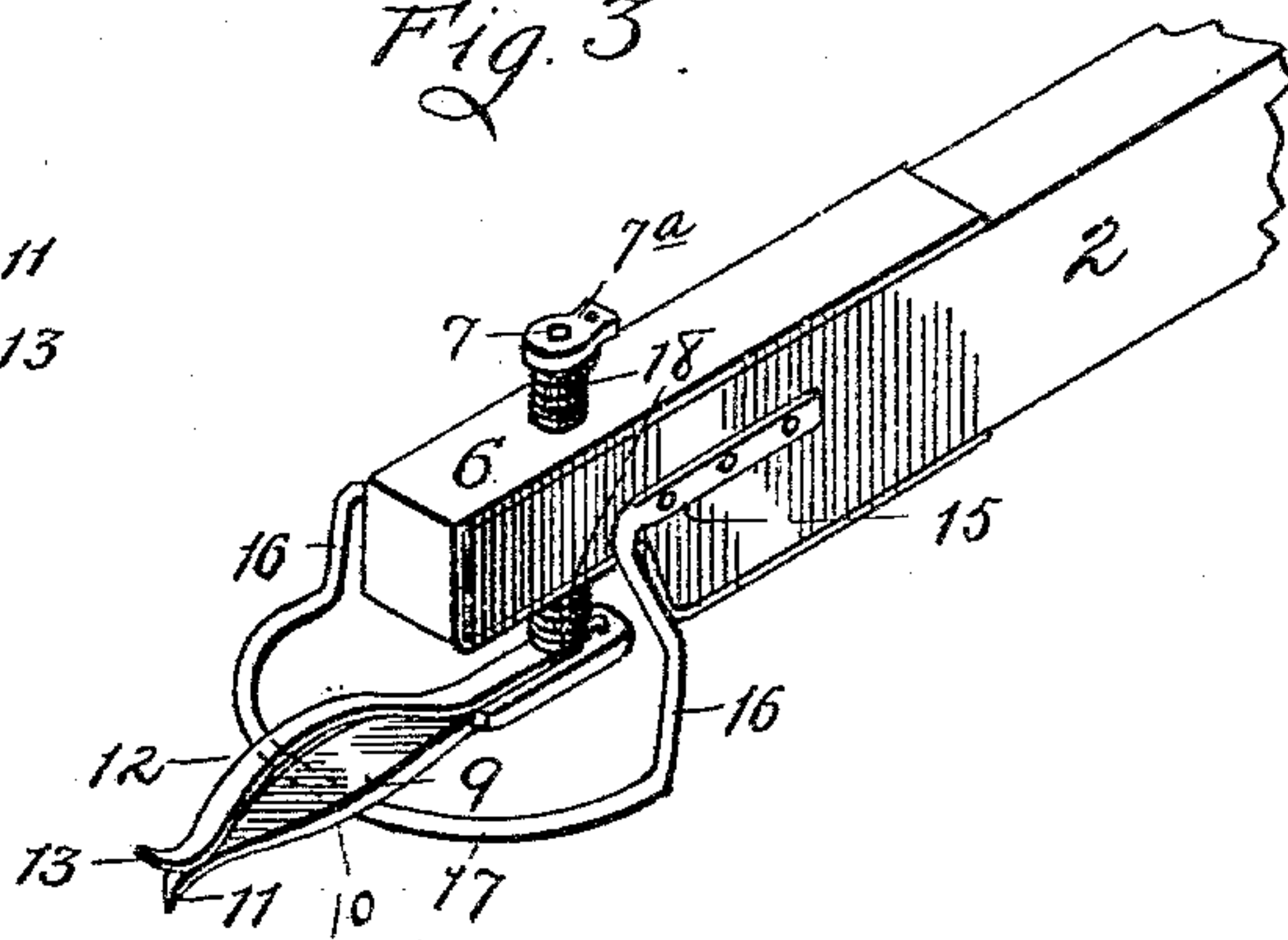


Fig. 3.



WITNESSES

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ORVILLE D. ROGERS, OF SHOALS, INDIANA.

RAILWAY MAIL-CRANE.

SPECIFICATION forming part of Letters Patent No. 545,250, dated August 27, 1895.

Application filed June 10, 1895. Serial No. 552,284. (No model.)

To all whom it may concern:

Be it known that I, ORVILLE D. ROGERS, a citizen of the United States, and a resident of Shoals, in the county of Martin and State of Indiana, have invented certain new and useful Improvements in Railway Mail-Cranes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a side view of mail-crane with the invention applied thereto released, the position of arms 2 and 3 indicated by dotted lines. Fig. 2 is a side view of outer end of lower arm, and Fig. 3 is a perspective view of outer end of upper arm.

This invention relates more particularly to certain new and useful improvements in the railway mail-crane described and claimed in my application for patent, Serial No. 540,213, allowed March 29, 1895.

The object of this invention is to provide certain improvements in the suspension-hooks and their adjuncts at the end of the crane-arms, also to provide suitable stops or guards for the said arms.

The invention consists in the novel construction and combination of parts, all as hereinafter described, and pointed out in the appended claims.

Referring to the accompanying drawings, the numeral 1 designates the crane-post, 2 the upper crane-arm, and 3 the lower crane-arm, said arms being pivoted to the post in the usual manner.

4 designates a bent link which connects the two arms upon opposite sides of their pivots, the upper connection being slotted. The upper arm is counterweighted at 5. Said arms 2 and 3 are preferably of wood, reinforced at their outer end portions by metal plates 6. Journalled vertically in the reinforced portion of each arm is a rod or bolt 7, which projects some distance above and below the arm. The upper arm is cut away on its lower side and the lower arm on its upper side, as indicated at 8. Secured rigidly to the lower end of this rod or bolt is a hook-arm 9, which projects some

distance beyond the end of the crane-arm. The said arm 9 is formed with a tapered shank which merges into a broadened central portion 10, having smooth convex lateral edges and a convex under face. This portion 10 gradually tapers to a point which is curved downwardly, as indicated at 11.

The above-described form of the hook is such as to permit the ring of the mail bag or pouch to be withdrawn therefrom with very little resistance.

12 designates a spring which is secured to the inner portion of the arm 9, its central portion being bowed away from the said arm, while its free end portion is brought again into contact therewith. The extreme end portion of the said spring is curved upwardly, as indicated at 13, forming with the part 11 of the arm 9 lips into and through which the ring of the pouch is readily introduced. Said spring serves to prevent the pouch being blown off by the wind or otherwise accidentally detached. It also serves to detain the pouch-rings on the ring-hooks or arm 9 until the center of the pouch (when struck by the catcher-hook) is drawn into the throat of the catcher-hook. Said pouch is then disengaged from the ring-hooks 9, thus making a sure catch at any rate of speed; also by the use of said spring 12 the lower crane-arm may be made lighter in weight, thus reducing the concussion on the pouch-rings, (when said pouch is struck by the catcher-hook,) as the action of said lower arm has an upward movement when the catch is made. By this means the pouch-rings are prevented from being torn or jerked off.

14 designates a stirrup which is usually formed from a single piece of metal rod, which is bent to form the two parallel portions 15, by which the stirrup is attached to the lateral faces of the crane-arms. Each branch of the wire is bent laterally from the respective portions 15, and thence downward, as at 16, the two arms 16 being united by an approximately semicircular or bow portion 17. This stirrup is similar to one form of a similar device shown in my said application, with the exception of the fact that the vertical arms 16 thereof are set forward of the rod or bolt 7, whereby said arms serve as stops for the hook-arm 9, and limit its movement to an

arc of somewhat less than one hundred and eighty degrees. Said stirrup, as will be seen, acts also as a guard to prevent the pouch slipping back too far on the hook-arms.

5 18 designates a double spring, one end portion of which is secured in the arm 9, and is thence coiled around the lower portion of the rod 7, its intermediate portion being extended up through the said arm, and its opposite end portion coiled around the upper end portion of said bolt and secured at its end in a head 7^a thereof. The purpose of this spring is not only to retain the arm in proper alignment after a pouch has been removed therefrom, but its arrangement is such, as will readily appear, that it also prevents any vertical play of the bolt in its bearing in the crane-arm.

The equipment of both the arms 2 and 3 with respect to the hook-arms and their adjuncts is the same, but the two arms are used reversely, as will appear from Fig. 1—that is to say, the parts which are at the upper side of the lower arm are at the lower side of the upper arm. The upper and lower edges of the upper arm 2, adjacent to its pivot, are each provided with a vertical projecting V-shaped lug 19. Secured to the crane-post adjacent to each of said lugs is a spring. 30 Each of these springs has a horizontal portion 20 and an inclined portion 21. When the crane-arm 2 is in its horizontal or pouch-supporting position, the two horizontal portions 20 of the two springs are in contact with the upper and lower edges of the said arm, the portion 20 of the upper spring having its bearing to the rear of the pivot of the arm, while the similar portion of the lower spring has its bearing forward of such pivot. 40 The inclined portions 21 are in contact with a beveled edge of the respective lugs 19, as seen in Fig. 1. It will be observed that this arrangement is such that the said arm cannot descend below the horizontal, but that 45 when it is freed from the pouch it can readily fly upward under the action of its counterbalancing-weight. It will also be observed that as said arm moves upwardly the action of the lugs 19 upon the inclined portions 21 of the springs will cause a constantly-increasing stress or tension of the said springs, which react upon the said arm to gradually check its movement.

22 designates a stop for limiting the descent 55 of the lower arm 3. This stop consists of a bent spring whose ends are made fast to the

post 1. Said spring in the present instance is somewhat in the form of a letter V, and the arm thereof which forms the stop is oblique to correspond to the obliquity of the 60 crane-arm in that position.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a railway mail crane, the combination 65 of a pivoted crane arm, a rod or bolt journaled vertically in the outer end portion of the said arm, the spring therefor, the hook arm 9 attached to the said bolt, said hook arm having a shank portion and an intermediate swelled portion which tapers to a downwardly turned point, the guard spring secured to the hook arm, the stirrup having the vertical stop arms 16, and the spring stop or stops for the crane arm, substantially as 75 specified.

2. In a railway mail crane, a pivoted crane arm, a rod or bolt journaled vertically in the outer end portion of said arm, the double spring therefor, one part of said spring being 80 coiled around each end portion, the hook arm 9 attached to the said bolt, its bent guard spring, and the stirrup secured to said crane arm, said stirrup having the vertical arms 16 which are forward of said rod or bolt, and the 85 bow portion which connects the said arms, substantially as specified.

3. In a railway mail crane, the combination with the counterweighted pivoted crane arm having a beveled lug on its upper and lower 90 edge adjacent to its pivot, of the two springs, one adjacent to and in contact with one of the said lugs of said springs having a horizontal portion 20 and an inclined portion 21, substantially as and for the purpose specified. 95

4. In a railway mail crane, the combination with the crane post and the crane arms pivoted to the said post, of the spring stop for limiting the downward movement of the lower of said arms, said stop consisting of a piece 100 of spring material bent acutely upon itself and secured at its ends to the said post below the said lower arm one limb of said piece having an inclination which corresponds to the inclination of the said arm in its lowered 105 position, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

ORVILLE D. ROGERS.

Witnesses.

JAMES MAHONEY,
LEONARD B. TRUEBLOOD.